METHOD, SYSTEM, AND PROGRAMFOR HANDLING DEVICE INTERRUPTS IN A MULTI-PROCESSOR ENVIRONMENT
Inventor: D. Gaur; Docket No. P15727

FIG. 1

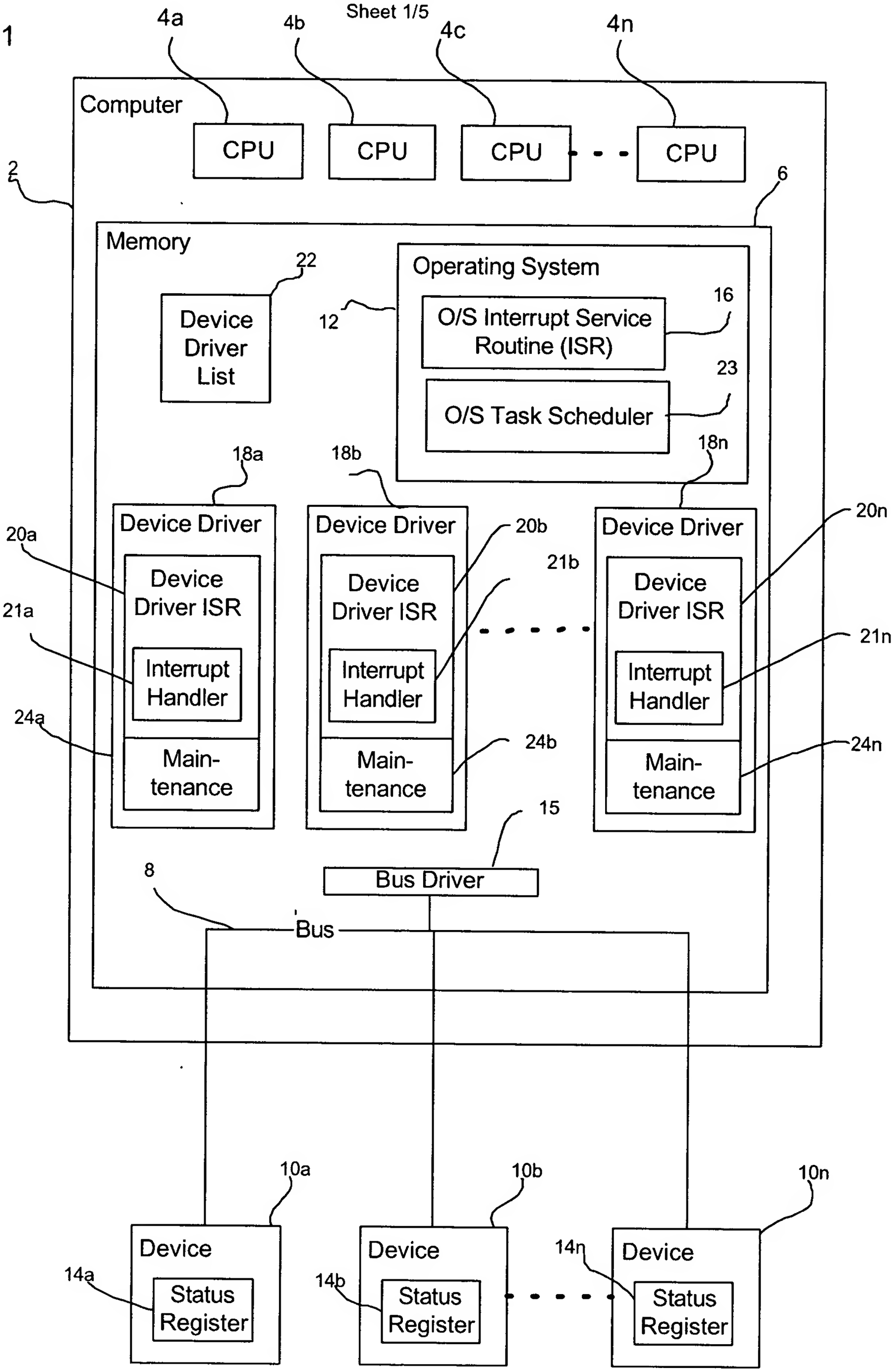

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FIG. 2

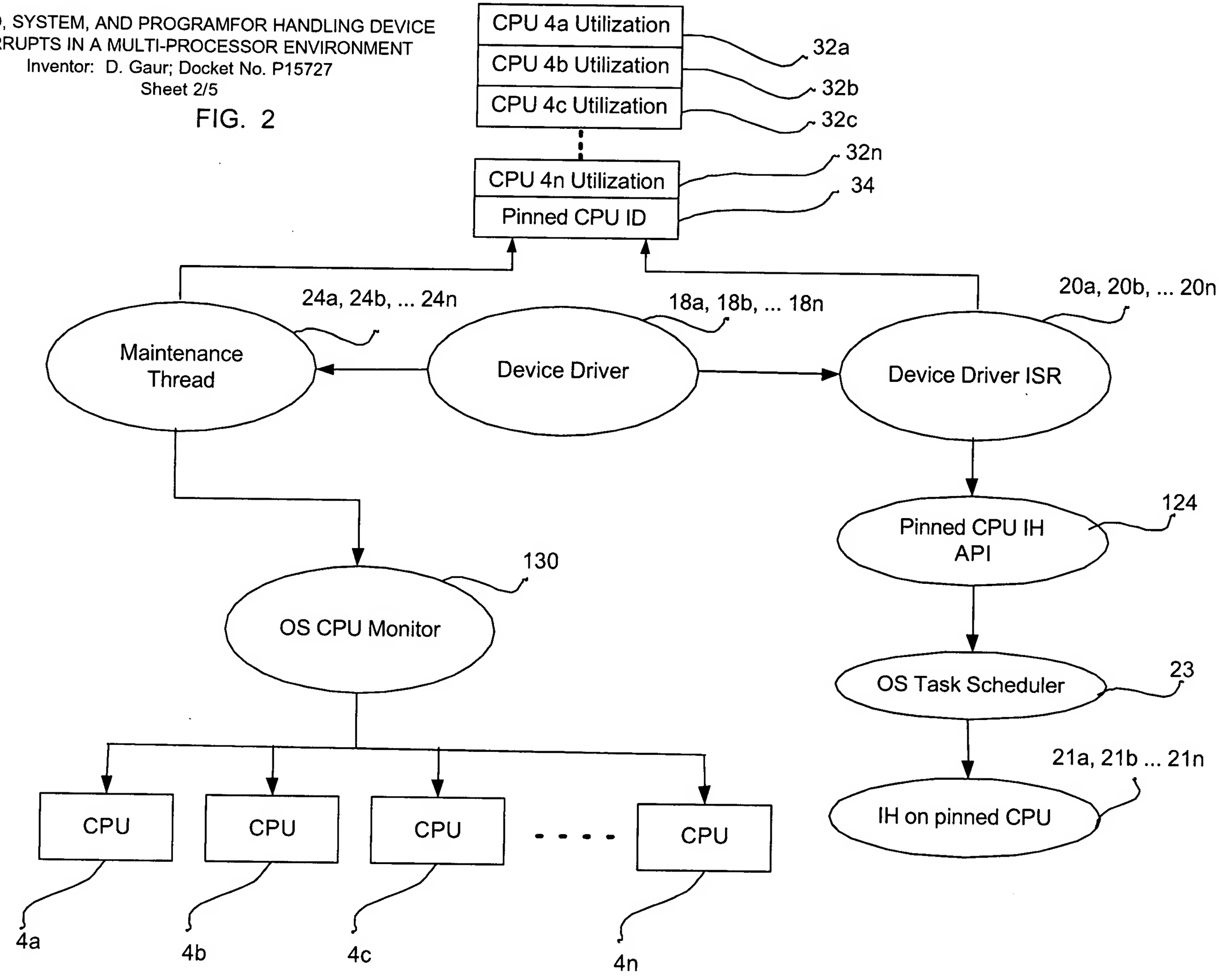
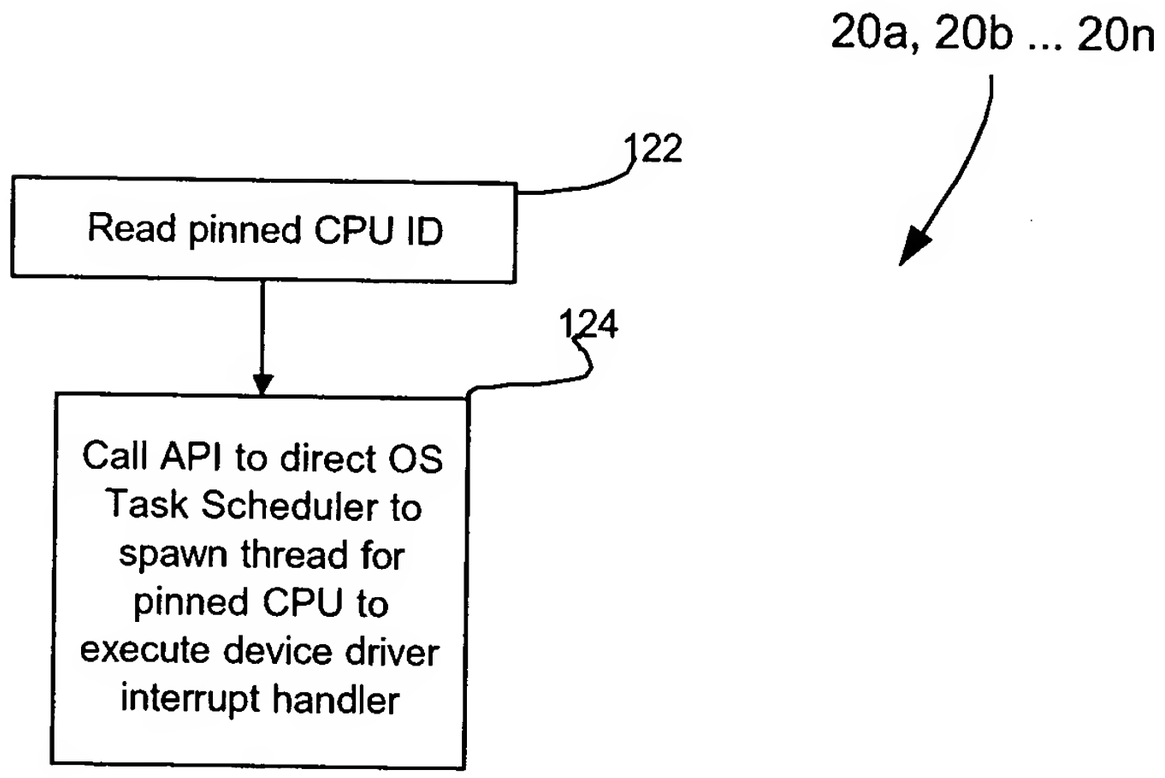


FIG. 3

16
Receive interrupt request on bus.
100
Determine device which issued interrupt request.
106
Call device driver ISR of determined device.
108

FIG. 4


20a, 20b ... 20n
Read pinned CPU ID
122
Call API to direct OS Task Scheduler to spawn thread for pinned CPU to execute device driver interrupt handler
124

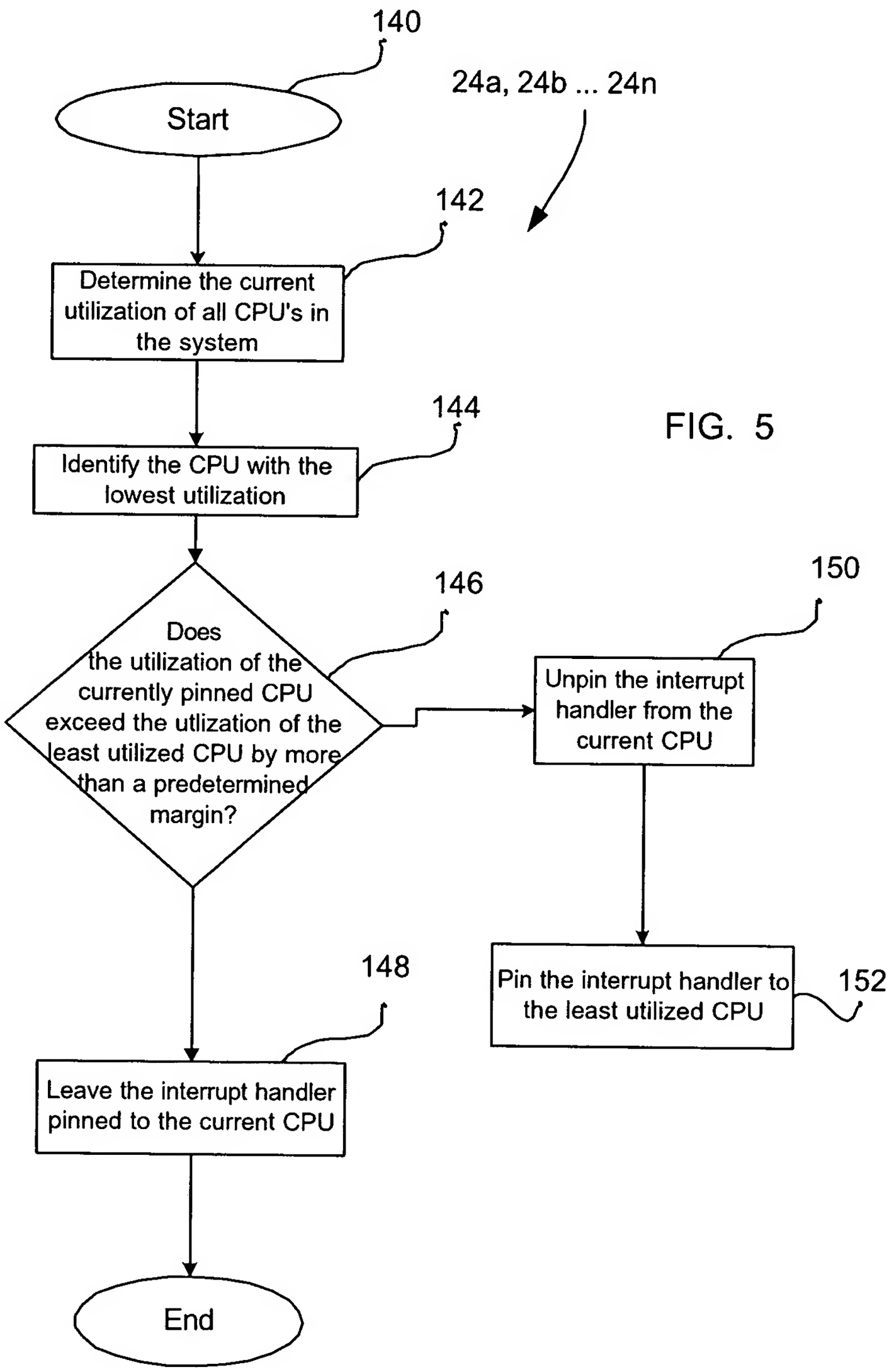
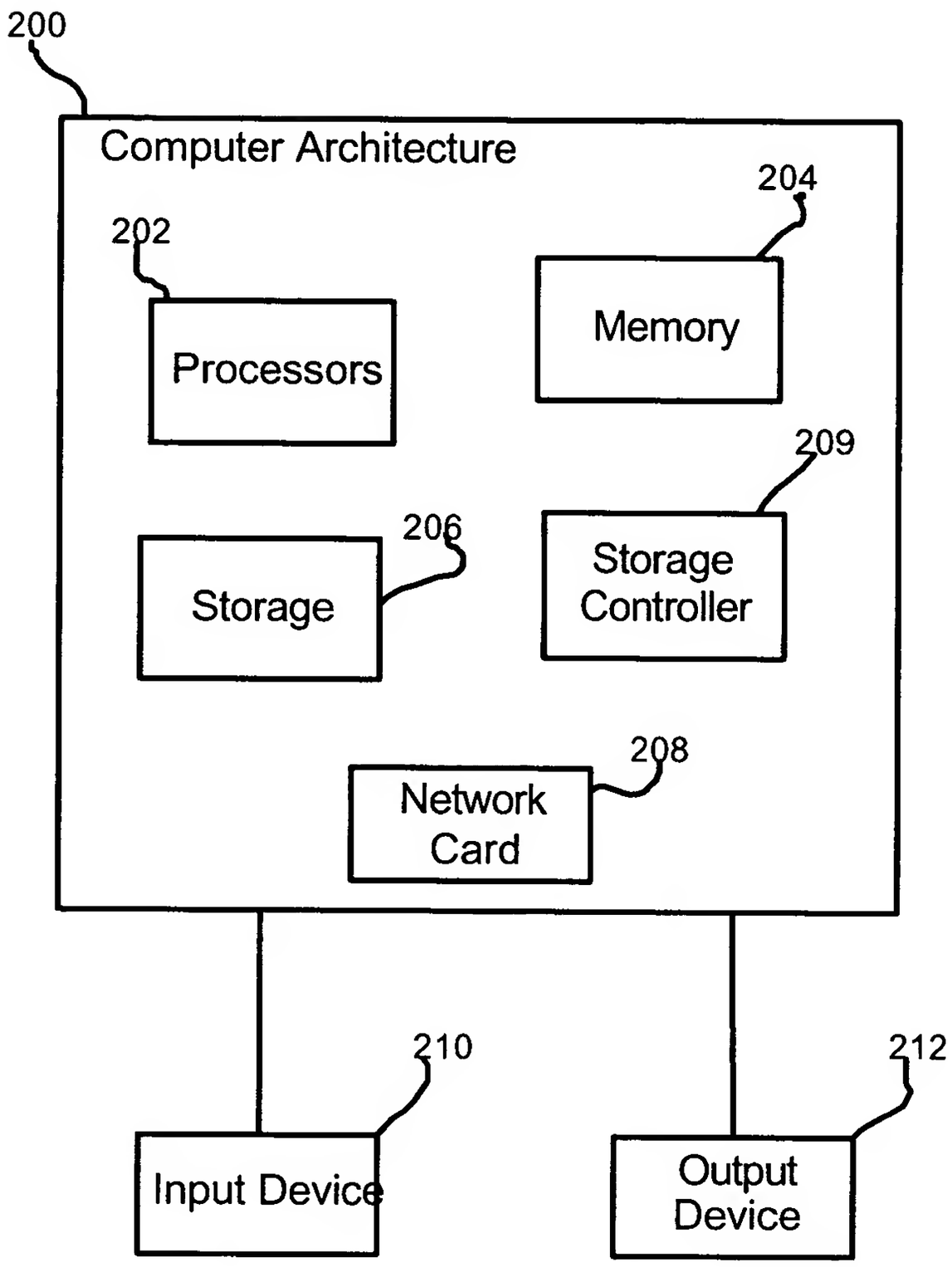

140
Start
24a, 24b ... 24n
142
Determine the current utilization of all CPU's in the system
144
Identify the CPU with the lowest utilization
146
Does the utilization of the currently pinned CPU exceed the utlization of the least utilized CPU by more than a predetermined margin?
150
Unpin the interrupt handler from the current CPU
Pin the interrupt handler to the least utilized CPU
152
148
Leave the interrupt handler pinned to the current CPU
End

FIG. 5

FIG.6


200
Computer Architecture
202
Processors
204
Memory
206
Storage
209
Storage Controller
208
Network Card
210
Input Device
212
Output Device